

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-027591**Date Inspected:** 11-May-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** As noted below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS OBG**Summary of Items Observed:**

Quality Assurance Inspector (QA) Douglas Frey was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

**13W-A.1 (Exterior)**

This QA Inspector observed ABF welder Salvador Sandoval (Welder ID 2202) performing the root and fill pass weld operation per the Shielded Metal Arc Welding (SMAW) process in the (1G) flat position on the (top side) of the Deck Plate Drop-in Section on Segment 13W along A.1 @ 2000mm to A.0. This QA Inspector observed QC Inspector William Sherwood verify prior to the start of the root and fill pass weld operation, that the minimum preheat temperature as per the approved WPS was established; and afterword's verified that the welding parameters (Amps and Travel Speed) were in accordance with WPS D1.5-1040C-CU Revision 0 using E7018 (1/8" and 5/32") diameter electrodes. This QA Inspector observed that ABF welder Salvador Sandoval was in-process on the root and fill pass weld operation on the Deck Plate Drop-in section at 13W-A.1 and appeared to be in general conformance with the contract documents.

**13W-W2.1 (Exterior)**

This QA Inspector randomly observed ABF welder Steven Davis (ID 7889) pre-heat the Complete Joint Penetration (CJP) joint along 13W-W2.1 @ y+3000mm. QC Inspector William Sherwood verified the correct temperature as per the approved WPS and afterword's verified that the welding parameters (Amps and Travel

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Speed) were in accordance with ABF-WPS-D1.5-1040C-CU using E7018 3.2mm diameter electrodes drawing amperage of 135. This QA Inspector observed the welder performing the SMAW process in the 1G flat position conducting root and fill welding. The welder was observed cleaning the start/stop edges of the work utilizing a small disc grinder to smooth and blend the transitions and compressed air to clear the debris. On a subsequent observation, the welder was noted as continuing the production welding and between passes the QC Inspector verified the welding parameters and surface temperatures utilizing a Fluke 337 clamp meter to measure the electrical welding parameters and Tempilstik Heat Indicators for verifying the preheat and inter-pass temperatures. This QA Inspector noted that the electrodes were stored in electrically heated, thermostatically controlled oven after removal from the sealed containers. The exposure limits of the electrodes appeared to comply with the minimum storage oven temperature of 120 degrees Celsius as per the contract documents. This QA Inspector noted that the work by Mr. Davis was in progress and appeared to be in general conformance with the contract documents.

### 13W-W2.8 (Exterior)

This QA Inspector randomly observed QC Inspector William Sherwood verify the pre-heat temperature of the CJP joint at y+ 100mm to y+12500mm of 13W-W2.8 prior to the Submerged Arc welding (SAW) process performed by ABF welder Kenneth Chappell (ID 3833) utilizing a Lincoln track mounted wire feeder. This QA Inspector verified that the remote oven for the ESAB EN 760 Flux was in the on position with the dial set at 250° F. ABF welding Superintendent Dan Ieraci provided a remote temperature gauge to verify the flux temperature inside of the oven. This QA Inspector verified that the F7A2-EM12KH8 electrode spool was compliant with ABF-WPS-D1.5-4042B-Revision 1. QC Inspector William Sherwood measured the parameters for amperage, volts, travel speed and the heat input as the welder adjusted the controls on the Lincoln track mounted wire feeder. This QA Inspector made subsequent observations to monitor quality and noted that the work at this location was completed on this date and appeared to be in general conformance with the contract documents.

### 12W PP109.5 W5-TS (Interior)

This QA Inspector made a random observation of the ongoing production welding of the Transverse Stiffener (TS) of the Deck Access hole (DAH) located at 12W PP109.5 W5 on the interior of the OBG. ABF welder Todd Jackson (ID 4639) was observed performing the SMAW in the 3G vertical position utilizing E7018-H4R electrodes drawing and amperage of 125. QC Inspector Sal Merino was present to monitor the welding and the parameters as they pertained to ABF-WPS-D1.5-F1200A. On a subsequent observation the work on the 7/16" fillet welds was in progress and between passes, the welder was noted as cleaning the work by employing a small disc grinder to grind and blend the work for a smooth transition. This QA Inspector noted that no issues had arisen and the work had been completed on this date. A visual inspection of the work was performed by the QC Inspector and the QA Inspector noted that the work at this location appeared to be in general conformance with the contract documents.

### Summary of Conversations:

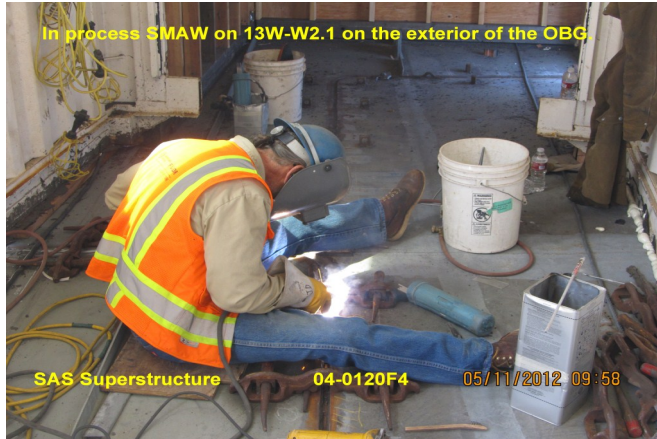
This QA Inspector had conversation with QA Lead Inspector Daniel Reyes about concerns regarding the back-gouging of the East Drop-In Panels.

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## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910 , who represents the Office of Structural Materials for your project.

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**Inspected By:** Frey,Doug

Quality Assurance Inspector

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**Reviewed By:** Levell,Bill

QA Reviewer